CARGO AREA RAIL SYSTEM FOR TONNEAU COVER AND/OR ANOTHER ACCESSORY

CROSS-REFERENCE CLAIM OF DOMESTIC PRIORITY

This claims benefits under 35 USC 119(e) of U.S. provisional patent application No. 60/415/956 filed on October 3, 2002 A.D. The complete specification of that application is incorporated herein by reference.

FIELD AND PURVIEW OF THE INVENTION

The present invention concerns a rail and rail system for a vehicle which can accommodate attaching or securing an accessory. For example, the vehicle can be a pickup truck, and the accessory a tonneau cover and/or or another accessory such as a hook, a box for tools, and so forth. The invention as well concerns the rail or rail system in combination with the vehicle and/or accessory.

BACKGROUND TO THE INVENTION

Tonneau covers are among the popular and useful accessories for pickup trucks. They protect and conceal cargo, and increase fuel efficiency by reducing air resistance. Many of these covers are soft tarpaulins or hard material and simply lashed to hooks around the top of the walls of the cargo bed area, and this can make for difficult and sometimes insecure installation.

Then, too, tool boxes and other accessories extend from side to side across the cargo bed area, say, directly behind the cab, and are permanently mounted to the top of the side walls with bolts. Among other drawbacks, such a tool box, since it extends above the walls of the cargo bed area, makes it difficult if not impossible to mount a tonneau cover.

It would be desirable to improve upon such art.

FURTHER DISCLOSURE OF THE INVENTION

In general, the present invention provides, in one aspect, a rail comprising an elongate member having an upwardly facing channel and a sidewardly facing channel. In another aspect, a rail system comprises at least two of said rails mounted in relationship to one another so as to accommodate employment of the upwardly and sidewardly facing channels. In a further aspect, said rail or rail system can be mounted to a vehicle cargo bed area to provide a combination whereof.

The invention is useful in vehicular and cargo management.

Significantly, by the invention, tonneau cover installation in pickup trucks is dramatically improved and simplified. The rail system can further hold the tonneau cover securely. Water drainage can be provided as necessary or desired. In addition, other accessories can be positioned on the rail even while the tonneau cover is installed. Thus provided for can be attachment of a tool box, a gun or game safe, a dog or other animal cage, a hook for tying loose cargo, a tie down, a motorcycle or an ATV lock support, a boat carrier, a ski rack, a pipe or lumber rack, a glass rack, a cargo bed area divider and/or other contrivances that lend themselves useful for transportation in the cargo bed area -- depending upon the configuration of the other accessory, whether a separate tonneau cover is in place or not. Typically, the upwardly facing channel secures the tonneau cover, and the sidewardly facing channel secures the other accessory. The invention is economical to make, and simple to install and use. It provides for a ready and quick locator tool to accurately and securely position the tonneau system and/or other hardware.

Numerous further advantages attend the invention.

With respect to the drawings, which form part of the present specification and which are not necessarily drawn to scale, the following is briefly noted:

FIG. 1 is a perspective view of a rail and rail system of the invention, installed in the cargo bed area of a pickup truck.

FIG. 2 is a perspective view of a rail, in detail, with an accessory or accessory anchor secured in place.

FIG. 3 is a rear view of a rail, showing the accessory or accessory anchor inserted into the sidewardly facing channel, ready for securement or removal.

FIG. 4 is a rear view of a rail, showing another accessory or accessory anchor inserted into the sidewardly facing channel.

FIG. 5 is a rear view of a rail, showing another accessory or accessory anchor inserted about the sidewardly facing channel.

The invention can be further understood by the following detail, which may be read in view of the drawings. Such is to be taken in an illustrative and not necessarily limiting sense.

More particularly, the rail of the present invention includes both upwardly and sidewardly facing channels. Two or more rails can be mounted in relationship to one another to provide the rail system of the invention, for example, with two rails mounted parallel to each other on opposing sides of a vehicle cargo bed area; with three rails mounted in relationship, with two rails mounted parallel to each other on opposing sides of the vehicle cargo bed, and the third mounted orthogonal to the first two; with four rails, mounted in opposing parallel pairs to form a rectangle or square; and so forth. Beneficially, the upwardly facing channels face upward when mounted, and the sidewardly facing channels face sideward and open toward each other when mounted. The rail or rail system can be mounted in combination with a vehicle and its cargo bed area. The vehicle may be a pickup truck, van, trailer, and so forth and the like.

The rail may be made of any suitable material, to include metal, plastic and/or wood. Each rail can be made in in separate components and assembled, or, preferably, made to be of one piece and of the same material throughout. For example, each rail can be made in one unitary piece of extruded aluminum.

With respect to the drawings, rail 100 can be mounted to pickup truck 5 in its cargo bed area 6 on side walls 7 (one illustrated); front wall 8; and/or tailgate inside wall 9. The rail 100 includes upwardly facing channel 10 and sidewardly facing channel 20, connected through vertical member 30, and in the configuration depicted may be considered to be a "y-rail."

The upwardly facing channel 10 can be defined by inside wall 11, bottom 12, and outside wall 13. The wall 13 can be part of the vertical member 30. The channel 10 is configured to hold many if not nearly all types of tonneau cover systems, especially of the hard shell variety. The channel 10 thus may be considered to have a U-shape. The U-shape construction of the channel 10 provides a load-bearing surface to fasten the tonneau cover. Hardware, for instance, in the form of latches, pins, strikers, locks, receivers, hinges, and other mechanical fasteners, as well as magnetic and other fasteners, can be fastened or fabricated in or onto the channel 10 to provide for tonneau operations. The U-shape of the channel 10 also provides a water-management trough for directing water shed by the tonneau cover or vehicle. The channel 10 can be provided with water guidance subsystem 15, for instance, connector 16, say, elastomeric insert, connecting the channels 10 of separate rails 100 mounted in the same pickup truck 5; and/or water exit subsystem 17, for instance, tubing through an orifice, directing the water outside the cargo bed area 6 of the pickup truck 5.

The sidewardly facing channel 20 can be defined by inside, downwardly projecting securing tab 21; top 22; outside wall 23, which can be part of the vertical member 30; bottom 24; and upwardly projecting securing tab 25. Downwardly projecting tab 26 may also be provided to be provided for additional securing capability. The sidewardly facing channel 20 thus may be considered to have a C- or G-shape, with the lower member even considered to have a T-shape. The shape of the channel 20 can provide for ready attachment and/or removal of the tool box, gun or game safe, dog or other animal cage, hook for tying loose cargo, tie down, motorcycle or ATV lock support, boat carrier, ski rack, pipe or lumber rack, glass rack, cargo bed area divider. Suitable fastening contrivances, for instance, twist tab 27 (FIGS. 2 & 3); button-end screw clamp 28 (FIG. 4); C-frame screw clamp 29 (FIG. 5), may be used with the channel 20 for the purpose. A simple hanging hook, or a button or eye, may be used.

The vertical member 30 may be provided with holes 31 for mounting the rail 30 to the walls 7, 8, 9. Additional hole(s) 32 may also be provided for mounting stop blocks, for insertion of a securing peg, a bolt and nut accessory or accessory anchor, to include with a standard head, an eye, or a hook, and so forth.

Mounting of the rail 100 can be accomplished in any suitable manner. For instance, welding, gluing, screwing, riveting, or clamping may be employed to mount the rail 100 to the wall of the cargo bed area 6 of the pickup truck 5 or other vehicle. Two or more rails 100 can be connected by abutting them directly without the aid of a connector, in which case simple butting or mitering of ends of each rail 100 may be employed, or with the aid of a connector, for example, corner connector 40 with corresponding male members 41, 42 about which parts of the channel 20 are slid.

The present invention is thus provided. Various features, parts, subcombinations and combinations may be employed with or without reference to other features, parts, subcombinations or combinations in the practice of the invention, and numerous adaptations and modifications can be effected within its spirit, the literal claim scope of which is particularly pointed out as follows: